

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of :  
Elias BITAR et al. : Confirmation No. 3392  
U.S. Patent Application No. 10/591,593 : Group Art Unit: 3663  
Filed: September 5, 2006 : Examiner: Nguyen, Chuong P.  
For: CURVILINEAR DISTANCE ESTIMATION METHOD FOR A MOVING VEHICLE WITH  
LIMITED MANEUVERABILITY

**RESPONSE TO RESTRICTION REQUIREMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

By the Official Action mailed July 30, 2008, claims 1-14 are objected to under PCT Rule 13.1 as being directed to more than one species of the generic invention. More precisely four species have been found.

However, before responding Applicants wish to point out that the Examiner has not explicitly indicated that the species are **patentably distinct** as is required – see MPEP 806.04(h) Species Must Be Patentably Distinct From Each Other. It is also pointed out that any patents which issue will be issued in the United States and not under the PCT. It is thus submitted that it is disingenuous to issue a species rejection under PCT rules.

Further, if shapes such as concave, U-shaped, half-moon etc., are sufficient to engender patentable distinction, this yardstick must also be applied to any art that is cited against the claims lest the PTO be guilty of establishing two distinct measures of patentability and/or suborning double patenting. Viz., maintaining this position also allows each of the non-elected species to be separately prosecuted with protection under § 121 from any double patenting rejection.

The species are as follows:

- A1. The additional obstacle is a concave shape
- A2. The additional obstacle is a U-shape

A3. The additional obstacle is a half-moon shape

A4. The additional obstacle is a dual-lobed butterfly-wing shape

For a provisional election of a single species, Applicants elect species A1 on which claims 1, 2 and 7-14 are readable, claim 1 being held as being generic and the additional obstacle being concave in shape, is claimed in dependent claim 2.

Claims 1-14 are also objected to under PCT Rule 13.1 as being directed to more than one species of the generic invention. More precisely two other species have been found:

The additional species are as follows:

B1. The contour of the additional obstacle comprises parts corresponding to the ground projection of two circles associated with the aircraft

B2. The contour of the additional obstacle consists of two lobes of a cycloid limited to their parts going from the starting point to the second intersection

For a provisional election of a single species, Applicant(s) elect species B1 on which claims 1, 6 and 7-14 are readable – claim 1 being generic.

The contour of the additional obstacle comprises parts corresponding to the ground projection of two circles associated with the aircraft, claimed in dependent claims 6 and 7.

Applicants do not traverse the non-unity objection raised against the four shapes A1, A2, A3 and A4 taken by the additional obstacle, but point out that, according to the PCT rule 13.2, these four shapes A1, A2, A3 and A4 have a common technical feature that defines a contribution over the prior art.

The common technical feature is a concavity turned into the direction of the motion of the craft and including the instantaneous position of the craft.

In the U-shape (A2) the concavity is between the two branches of the U. In half-moon shape (A3) the concavity is on the concave side. In dual-lobed butterfly-wing shape (A4) the concavity is between the two lobed butterfly-wings.

The concavity of all four species A1, A2, A3 and A4 turned into the direction of the motion of the craft and including the instantaneous position of the craft allows the propagation of a distance transform and defines a technical relationship among these four shapes fulfilling the requirement of unity of invention.

Further more, it must be noticed that the four shapes A1, A2, A3 and A4 have a family resemblance with their concave part near the middle.

In accordance with this species election, the PTO has labeled each of these patentably distinct and therefore potentially patentable in their own right.

The non-unity objection raised against species B1 and B2 is not traversed. However, it is pointed out that, as explained in the application (pages 13-17, especially page 13, lines 16-21 and page 14, lines 5-6), the ground projection of two circles associated with the aircraft leaves a trace on the ground in the form of cycloid when the wind is constant in speed and in direction. So species B2 is only a more precise description of species B1 (ground projection of the two circles associated with the aircraft) in case of constant wind.

Reconsideration of these election requirements in light of the absence of any showing that the identified species are in fact patentably distinct and in light of the distinct possibility of double patenting being suborned in patents issued in the United States, is respectfully requested.

Early examination on the merits is courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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**Date: September 29, 2008**